

ABSTRACT OF THE DISCLOSURES

Electrostatically operated micro-optical devices and method of manufacturing such devices is disclosed. In a preferred embodiment, the
5 micro-optical devices using electrostatic comb drive actuators having new spring designs to overcome side instability and exhibit enlarged displacement, having new designs of comb finger electrode shapes to generate larger force output, and having new clip type latch mechanism to control the corresponding device at certain states in an analog manner without electrical power
10 consumption. Based on the proposed optical path and device configurations, integration and assembly of a plurality of reflective micro-mirrors in conjunction with proposed new comb drive actuators is very promising way to provide micro-optical devices to get good optical performance and suitable for multi-channel applications. We also disclose several process techniques to
15 manufacture the micro-optical devices with said electrostatic comb drive actuator in a mass production manner with higher yield.